

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in this application:

## **LISTING OF CLAIMS:**

Claims 1 to 18. (Canceled)

19. (Previously Presented) A gearing, comprising:  
a rotatable drive element;  
a rotatable output element;  
at least one first force-transmission device arranged at an end face of the drive element along at least one spiral line; and  
a second force-transmission device arranged at an end face of the output element along a circumferential line;  
wherein in accordance with reciprocal action of the first force-transmission device and the second force-transmission device, the first force-transmission device and the second force-transmission device are configured to transmit torque from the drive element to the output element to effect a rotary motion in the output element, a frequency of rotation of the output element lower than a frequency of rotation of the drive element.

20. (Previously Presented) The gearing according to claim 19, wherein the spiral line satisfies the condition  $r = a \cdot \phi$ ,  $r$  representing a radius of the spiral line,  $a$  representing a constant positive number, and  $\phi$  representing a pivoting angle of a radial beam originating from a pole of the spiral line.

21. (Currently Amended) The gearing according to claim 19, wherein a total number of reciprocating elements of the second force-transmission device ~~of the output element~~ is greater than an effective number of threads of the spiral line of the drive element.

22. (Previously Presented) The gearing according to claim 19, wherein a greatest distance between an axis of rotation of the output element and an outer contour of the second force-transmission device of the output element is smaller

than a distance between axes of rotation of the drive element and the output element in a region of the output element.

23. (Previously Presented) The gearing according to claim 19, wherein at least one of (a) the first force-transmission device and (b) the second force-transmission device includes a permanent magnet.

24. (Previously Presented) The gearing according to claim 23, wherein the force-transmission devices are configured to transmit the torque in a contactless manner.

25. (Previously Presented) The gearing according to claim 23, wherein the force-transmission devices are configured to transmit the torque in a contactless manner by repelling magnetic forces.

26. (Previously Presented) The gearing according to claim 23, wherein the permanent magnets are arranged on a carrier body, a material of the carrier body having a relative permeability greater than 10.

27. (Previously Presented) The gearing according to claim 23, wherein the permanent magnets are arranged on a carrier body, a material of the carrier body having a relative permeability greater than 100.

28. (Currently Amended) The gearing according to claim 23, wherein at least one permanent magnet of the drive element includes a layer on a side facing the output element, the layer including a ferromagnetic material ~~having ferromagnetic properties~~.

29. (Withdrawn) The gearing according to claim 23, wherein permanent magnets of the drive element are arranged on a plurality of spiral lines and have different bar heights.

30. (Previously Presented) The gearing according to claim 23, further comprising a third force-transmission device configured to transmit torque in a contacting manner from the drive element to the output element.

31. (Previously Presented) The gearing according to claim 23, further comprising a third force-transmission device at the output element configured to transmit torque in a contacting manner from the drive element to the output element.

32. (Previously Presented) The gearing according to claim 30, wherein the third force-transmission device is configured to transmit torque in both the contacting manner and a non-contacting manner from the drive element to the output element.

33. (Withdrawn) The gearing according to claim 23, wherein a magnetically screened partial region and a non-screened partial region are located in a region between the drive element and the output element.

34. (Withdrawn) The gearing according to claim 33, wherein the magnetically screened partial region includes a ferromagnet, and the non-screened partial region includes a window in the ferromagnet.

35. (Withdrawn) The gearing according to claim 33, wherein the magnetically screened partial region includes a soft magnetic plate, and the non-screened partial region includes a window in the plate.

36. (Withdrawn) The gearing according to claim 19, wherein the first force-transmission device of the drive element includes a groove, and the second force-transmission device of the output element includes recesses in which ball elements are arranged.

37. (Withdrawn) The gearing according to claim 19, wherein the second force-transmission device includes a plurality of permanent magnets arranged along the circumferential line, each permanent magnet having a polarity opposite to a polarity of adjacent permanent magnets, at least a portion of each permanent

magnet having a height from the end face of the output element different than a height of at least a portion of adjacent permanent magnets.

38. (Previously Presented) A rotary encoder, comprising:  
at least one gear step, each gear step including:  
    a rotatable drive element;  
    a rotatable output element;  
    at least one first force-transmission device arranged at an end face of the drive element along at least one spiral line; and  
    a second force-transmission device arranged at an end face of the output element along a circumferential line;  
wherein in accordance with reciprocal action of the first force-transmission device and the second force-transmission device, the first transmission device and the second transmission device are configured to transmit torque from the drive element to the output element to effect a rotary motion in the output element, a frequency of rotation of the output element lower than a frequency of rotation of the drive element.
39. (Previously Presented) The rotary encoder according to claim 38, wherein the output element is arranged between the drive element and a wafer.
40. (Currently Amended) The rotary encoder according to claim 38, wherein a shortest distance between an axis of rotation of the drive element and a point at which the output element is rotatably supported is not greater than one-half of a diameter of a body of the drive element gear.
41. (Currently Amended) The rotary encoder according to claim 38, wherein a shortest distance between an axis of rotation of the drive element and a point at which the output element is rotatably supported is not greater than one-half of a diameter of a code disk.
42. (Withdrawn) The rotary encoder according to claim 38, wherein the second force-transmission device includes a plurality of permanent magnets arranged along the circumferential line, each permanent magnet having a polarity

opposite to a polarity of adjacent permanent magnets, at least a portion of each permanent magnet having a height from the end face of the output element different than at least a portion of adjacent permanent magnets.

43. (Previously Presented) A gearing, comprising:  
rotatable drive means;  
rotatable output means;  
at least one first force-transmission means arranged at an end face of the drive means along at least one spiral line; and  
second force-transmission means arranged at an end face of the output means along a circumferential line;  
wherein in accordance with reciprocal action of the first force-transmission means and the second force-transmission means, the first force-transmission means and the second force-transmission means transmit torque from the drive means to the output means to effect a rotary motion in the output means, a frequency of rotation of the output means lower than a frequency of rotation of the drive means.

44. (Previously Presented) A rotary encoder, comprising:  
at least one gear step, each gear step including:  
rotatable drive means;  
rotatable output means;  
at least one first force-transmission means arranged at an end face of the drive means along at least one spiral line; and  
second force-transmission means arranged at an end face of the output means along a circumferential line;  
wherein in accordance with reciprocal action of the first force-transmission means and the second force-transmission means, the first force-transmission means and the second force-transmission means transmit torque from the drive means to the output means to effect a rotary motion in the output means, a frequency of rotation of the output means lower than a frequency of rotation of the drive means.

45. (New) The gearing according to claim 30, wherein the third force-transmission device includes one of a set of driving pins located on the output element and a set of rotatable balls located on the output element.

46. (New) The gearing according to claim 19, wherein each first force-transmission device is spiral shaped.

47. (New) The gearing according to claim 19, wherein the frequency of rotation of the output element is fixed in proportion to the frequency of rotation of the drive element.

48. (New) The gearing according to claim 19, wherein an axis of rotation of the drive element is one of parallel to and at a slightly inclined angle to an axis of rotation of the output element.

49. (New) The rotary encoder according to claim 38, wherein each first force-transmission device is spiral shaped.

50. (New) The rotary encoder according to claim 38, wherein the frequency of rotation of the output element is fixed in proportion to the frequency of rotation of the drive element.

51. (New) The rotary encoder according to claim 38, wherein an axis of rotation of the drive element is one of parallel to and at a slightly inclined angle to an axis of rotation of the output element.

52. (New) The gearing according to claim 43, wherein each first force-transmission means is spiral shaped.

53. (New) The gearing according to claim 43, wherein the frequency of rotation of the output means is fixed in proportion to the frequency of rotation of the drive means.

54. (New) The gearing according to claim 43, wherein an axis of rotation of the drive means is one of parallel to and at a slightly inclined angle to an axis of rotation of the output means.

55. (New) The rotary encoder according to claim 44, wherein each first force-transmission means is spiral shaped.

56. (New) The rotary encoder according to claim 44, wherein the frequency of rotation of the output means is fixed in proportion to the frequency of rotation of the drive means.

57. (New) The rotary encoder according to claim 44, wherein an axis of rotation of the drive means is one of parallel to and at a slightly inclined angle to an axis of rotation of the output means.